

1. Rejection of Claims 1, 4-6, 8-13, and 19-30 Under 35 U.S.C.

103(a)

The Office Action states claims 1, 4-6, 8-13, and 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang, et al. (U.S. Patent 6,034,025). In particular, the Office Action states,

Yang et al. teaches a method of producing a catalyst for the polymerization of olefins. Whereby, magnesium halide is contacted in solution with a mixture of a cyclic ether and alcohols which can be further reacted with a titanium (group 4 metal) compound forming a solid precipitate (abstract), polymerization of  $\alpha$ -olefins (ethylene and propylene) (column 2, lines 42-44), methanol and ethanol as the alcohols and THF (tetrahydrofuran) as the cyclic ether having from 0.5-20 equivalents of alcohol and 0.5-20 equivalents of Lewis base (THF) per mole of magnesium compound (column 3, lines 45-64), reacting with an organoaluminum compound (column 6, lines 7-22), and exemplifies Magnesium chloride ( $MgCl_2$ ) (column 7, line 50).

Although, Yang et al does not explicitly state that his Lewis adduct is solid, however, his composition appears identical to that of the instant application and if the composition of the instant application is solid then it would be obvious to someone of ordinary skill in the art that an identical composition from the reference would also be expected to be solid (again being in solution does not prevent a compound from being solid).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

**RESPONSE**

Applicant respectfully traverses the rejection of claims 1, 4-6, 8-13, and 19-30.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

Arguments regarding Yang, et al. in Applicant's previous response of January 3, 2007 are incorporated herein by reference in their entirety.

As previously discussed in Applicant's aforementioned response, Applicant respectfully believes Yang, et al. fails to disclose, teach, or suggest Applicant's current claimed solid Lewis adducts comprising  $\text{MgCl}_2$ , a Lewis base (LB) selected from the group consisting of ethers, ketones, and alkyl esters of  $\text{C}_1$ - $\text{C}_{10}$  aliphatic carboxylic

acids, and an alcohol ROH, in which R is a C<sub>1</sub>-C<sub>15</sub> hydrocarbon group optionally substituted with heteroatom containing groups, which compounds are in molar ratios to each other defined by the following formula:  $MgCl_2(ROH)_m(LB)_n$  in which m ranges from 0.5 to 2.5, and n ranges from 0.07 to 6. See Applicant's previous response of January 3, 2007, page 12, line 23 - page 15, line 3, in particular, page 14, line 22 - page 15, line 3.

In fact, as previous discussed and outlined in the aforementioned sections of Applicant's previous response, Applicant respectfully believes Yang, et al., at the very least, fails to disclose, teach, or suggest Applicant's currently claimed adducts, wherein Applicant's currently claimed adducts are solid.

However, the Examiner has asserted on page 2, line 19 - page 3, line 12 of the currently pending Office Action,

Yang et al. teaches a method of producing a catalyst for the polymerization of olefins. Whereby, magnesium halide is contacted in solution with a mixture of a cyclic ether and alcohols which can be further reacted with a titanium (group 4 metal) compound forming a solid precipitate (abstract), polymerization of  $\alpha$ -olefins (ethylene and propylene) (column 2, lines 42-44), methanol and ethanol as the alcohols and THF (tetrahydrofuran) as the cyclic ether having from 0.5-20 equivalents of alcohol and 0.5-20 equivalents of Lewis base (THF) per mole of magnesium compound (column 3, lines 45-64), reacting with an organoaluminum compound (column 6, lines 7-22), and exemplifies Magnesium chloride ( $MgCl_2$ ) (column 7, line 50).

Although, Yang et al does not explicitly state that his Lewis adduct is solid, however, his composition appears identical to that of the instant application and if the composition of the instant application is solid then it would be obvious to someone of ordinary skill in the art that an identical composition from the reference would

also be expected to be solid (again being in solution does not prevent a compound from being solid).

However, Applicant respectfully traverses the Examiner's assertions outlined above.

First and foremost, the Examiner contends in the current Office Action on page 2, line 10 - page 3, line 1,

Yang et al. teaches a method of producing a catalyst for the polymerization of olefins. Whereby, magnesium halide is contacted in solution with a mixture of a cyclic ether and alcohols which can be further reacted with a titanium (group 4 metal) compound forming a solid precipitate **(abstract)**. . . .

However, the actual full abstract of Yang, et al. discloses,

A method for producing a catalyst for the polymerization or copolymerization of olefins is described. The method includes producing a **magnesium compound solution** by reacting a **magnesium halide compound in the mixture of a cyclic ether and two alcohols with an organosilane compound**. The **magnesium compound solution** may be reacted with a titanium halide compound such that precipitated solid components are formed. These precipitated solid components may be reacted with a titanium compound and an electron donor to produce the polymerization catalyst. (Emphasis added).

Accordingly, Applicant respectfully believes the abstract of Yang, et al., clearly discloses a method for producing a magnesium compound solution, not solid Lewis adducts as currently claimed by Applicant.

Additionally, Applicant respectfully believes the point that Yang, et al. expressly and definitively discloses a method for producing a magnesium compound solution is clearly and expressly re-

iterated throughout Yang, et al. In particular, Yang, et al. clearly states in several passages,

In step (i), the **magnesium compound solution** may be produced by **dissolving** the aforementioned magnesium halide compounds in a **solvent** of a mixture of two or more kinds of alcohol and cyclic ether either in the presence or absence of a hydrocarbon **solvent**. (Emphasis added).

. . . . .

When producing a **magnesium halide compound solution**, a mixture of two or more kinds of alcohol and cyclic ether may be used as a **solvent**. By the use of such a mixed **solvent**, magnesium compounds may be more easily turned into a **solution** than by the use of any one single **solvent**. (Emphasis added).

. . . . .

The entire alcohol mixture may all be used in **dissolving** the magnesium halide compound. Alternatively, a part of the alcohol mixture may be used in **dissolving** the magnesium compound, while the remaining part may be added to the magnesium **solution** obtained by **dissolving** the magnesium compound. (Emphasis added).

See col. 3, lines 31-35, col. 3, lines 44-48, and col. 3, line 65 - col. 4, line 3 in Yang, et al.

Accordingly, Applicant respectfully traverses the Examiner's contention on page 3, lines 7-12,

Although, Yang et al does not explicitly state that his Lewis adduct is solid, however, his composition appears identical to that of the instant application and if the composition of the instant application is solid then it would be obvious to someone of ordinary skill in the art that an identical composition from the reference would also be expected to be solid (again being in solution does not prevent a compound from being solid).

In fact, given the express disclosure of Yang, et al., some

portions of which are highlighted *supra*, Applicant respectfully believes that any Lewis adduct disclosed in Yang, et al. would not be "identical" to, or merely an obvious variation of, Applicant's currently claimed Lewis adducts, or at the very least, Applicant respectfully believes any Lewis adduct disclosed in Yang, et al. would not be "identical" to, or merely an obvious variation of, the solid Lewis adducts as currently claimed by Applicant.

Additionally, Applicant respectfully traverses the Examiner's assertion that, "again being in solution does not prevent a compound from being solid." In fact, Applicant respectfully believes given the express disclosure of Yang, et al., one can only come to the conclusion that the magnesium compound solution disclosed in Yang, et al., and relied upon by the Examiner, is in fact a solution and not a solid. However, if the Examiner maintains the current rejection, Applicant respectfully requests the Examiner to provide Applicant with objective, factual evidence showing (i) the magnesium compound solution disclosed in Yang, et al. would in fact be "identical to that of the instant application", as asserted by the Examiner, and (ii) that the magnesium compound solution would in fact be a solid adduct as currently claimed by Applicant.

Accordingly, for the reasons outlined *supra*, Applicant respectfully believes the current rejection should be withdrawn.

Notwithstanding the above, Applicant still believes the Examiner has not established a *prima facie* case of obviousness. As outlined *supra*, to establish a *prima facie* case of obviousness,

three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

However, Applicant respectfully believes the Examiner has not satisfied each of the aforementioned criteria to establish a *prima facie* case of obviousness.

In particular, Applicant respectfully believes the Examiner has not demonstrated (i) *how and where*, by particularly pointing out by column and line, Yang, et al. discloses, teaches, or suggests each claim limitation outlined by Applicant's currently pending claims; (ii) *why*, if Yang, et al. does not expressly disclose, teach, or suggest each claim limitation outlined by Applicant's currently pending claims, one would have deviated from the express disclosure of Yang, et al. and modified Yang, et al. as suggested by the Examiner; and (iii) *why* one would have expected such a modification to succeed. However, this is the Examiner's initial burden in establishing a *prima facie* case of obviousness. See MPEP §2142 and §2143.

Moreover, Applicant respectfully traverses the Examiners assertion on page 3, lines 13-18,

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a

desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

However, Applicant respectfully believes the Examiner has not identified what, if any, result effective variable is being optimized in Applicant's currently pending claims, much less demonstrated with objective, factual evidence that whatever supposed result effective variable the Examiner is referring to, was so recognized as a result effective variable in the art. See *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Accordingly, if the Examiner maintains the current rejection and continues to rely on *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), Applicant respectfully requests the Examiner to identify, (i) what variable, or variables, in Applicant's currently pending claims the Examiner is asserting is a result effective variable, (ii) objective, factual evidence supporting the Examiner's assertion that the identified result effective variable, or variables, from (i) were in fact recognized in the art to be result effective variables, and (iii) how the supposed result effective variable from (ii) is supposedly being optimized in Applicant's currently pending claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

In light of the above, Applicant respectfully believes claims 1, 4-6, 8-13, and 19-30 are patentably distinct from Yang, et al. Accordingly, Applicant respectfully requests the Examiner to withdraw the current rejection.



**2. Rejection of Claims 1, 4-6, 8-13, and 19-30 Under 35 U.S.C.**

**103(a)**

The Office Action states claims 1, 4-6, 8-13, and 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iiskolan, et al. (U.S. Patent 4,829,034). In particular, the Office Action states,

Iiskolan et al. teaches solid catalyst components for the polymerization of  $\alpha$ -olefins (abstract), a catalyst formed by contacting  $MgCl_2$  with EtOH (alcohol), diisobutylphthalate (Lewis Base, alkyl ester of carboxylic acid), ratio of magnesium:alcohol:Lewis base equals 1:3:0.1, contacting with  $TiCl_4$  and triethylaluminum (column 5, line 58 to column 6, line 39) the reference further teaches the alcohol can range from 1-6 equivalents per magnesium (column 10 lines 38-40) and gives examples of 1 Mg per 3.7 EtOH (column 8, line 8) and 1 Mg per 2.9 EtOH (column 8, line 62).

Although, Iiskolan does not explicitly teach using 2.5 ROH per Mg, Iiskolan does disclose a range that encompasses 2.5 ROH per Mg, it would have been obvious to someone of ordinary skill in the art at the time the invention was made to vary the ratio of reagent within the stated range of feasibility.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

**RESPONSE**

Applicant respectfully traverses the rejection of claims 1, 4-6, 8-13, and 19-30.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

Arguments regarding Iiskolan, et al. in Applicant's previous response of January 3, 2007 are incorporated herein by reference in their entirety.

As previously discussed in Applicant's aforementioned response, Applicant respectfully believes Iiskolan, et al. fails to disclose, teach, or suggest Applicant's currently claimed solid Lewis adducts comprising  $MgCl_2$ , a Lewis base (LB) selected from the group consisting of ethers, ketones, and alkyl esters of  $C_1$ - $C_{10}$  aliphatic carboxylic acids, and an alcohol ROH, in which R is a  $C_1$ - $C_{15}$  hydrocarbon group optionally substituted with heteroatom containing groups, which compounds are in molar ratios to each other defined by the following

formula:  $\text{MgCl}_2(\text{ROH})_m(\text{LB})_n$  in which  $m$  ranges from 0.5 to 2.5, and  $n$  ranges from 0.07 to 6. See Applicant's previous response of January 3, 2007, page 15, line 18 - page 19, line 12, in particular, page 18, line 14 - page 19, line 12.

In particular, as previously discussed and outlined in the aforementioned sections of Applicant's previous response, Applicant respectfully believes Iiskolan, et al., at the very least, fails to disclose, teach, or suggest Applicant's currently claimed adducts, which comprise  $\text{MgCl}_2$ , the particularly claimed Lewis base, and the particularly claimed alcohol, wherein the constituents, particularly the claimed alcohol (i.e., ROH), is in the particularly claimed ratio.

In fact the Examiner acknowledges on page 4, line 11,  
. . . Iiskolan does not explicitly teach using 2.5 ROH  
per Mg. . . .

To account for this deficiency in Iiskolan, et al. the Examiner asserts on page 4, lines 11-14,

**. . . Iiskolan does disclose a range that encompasses 2.5 ROH per Mg**, it would have been obvious to someone of ordinary skill in the art at the time the invention was made to vary the ratio of reagent within the stated range of feasibility. (Emphasis added)

However, as outlined in Applicant's response of January 3, 2007, Applicant respectfully believes the broad, general disclosure of Iiskolan, et al. does not anticipate Applicant's currently claimed solid Lewis adducts. In particular, in order to anticipate

the claims, the claimed subject matter must be disclosed in the reference with "sufficient specificity to constitute an anticipation under the statute.", (Emphasis added). Additionally, if the claims are directed to a narrow range, and the reference teaches a broad range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with "sufficient specificity" to constitute an anticipation of the claims. See *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423, (Fed. Cir. 2006). See MPEP §2131.03 II.

Moreover, Applicant respectfully believes the broad, general disclosure of Iiskolan, et al. does not render obvious Applicant's currently claimed solid Lewis adducts. A determination of patentability under 35 U.S.C. §103 should be made upon the facts of the particular case in view of the totality of the circumstances. See *In re Dillion*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (in banc). Use of *per se* rules by Office personnel is improper for determining whether claimed subject matter would have been obvious under 35 U.S.C. 103. See *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995); *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. Also, the fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render

that compound obvious. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). See also *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992); *In re Deuel*, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

Accordingly, even if Iiskolan, et al. discloses a range that overlaps, or even encompasses Applicant's currently claimed alcohol range, which Applicant denies, that in and of itself is not necessarily enough to anticipate or render obvious Applicant's solid Lewis adducts. As such, since Applicant respectfully believes the Examiner has used the wrong legal standard for obviousness, Applicant respectfully believes the current rejection should be withdrawn.

Furthermore, the Examiner's assertion on page 4, lines 12-14,

. . . it would have been obvious to someone of ordinary skill in the art at the time the invention was made to vary the ratio of reagent within the stated range of feasibility.

However, that which is "within the capabilities" of one of ordinary skill in the art, is not synonymous with obviousness. See *Ex parte Levengood*, 28 USPQ2d 1300, 1301 (BPAI 1993). Additionally, change for the sake of change is not what one of ordinary skill in the art seeks to do. "One of ordinary skill in the art follows conventional wisdom and does not innovate." Standard Oil Co. v. American Cyanamid Co., 227 USPQ 293, 297-98 (Fed. Cir. 1985); (Emphasis added). Accordingly, Applicant respectfully believes the Examiner has not established why one would have modified Iiskolan,

et al. in an attempt to arrive at Applicant's currently claimed solid Lewis adducts, and why one would have had a reasonable expectation of success. However, this is the Examiner's initial burden to establish a *prima facie* case of obviousness. See MPEP §2142 and §2143. For these reasons alone, Applicant respectfully believes the current rejection should be withdrawn.

Notwithstanding, Applicant is currently claiming solid Lewis adducts comprising, in part, a Lewis base (LB) selected from the group consisting of ethers, ketones, and alkyl esters of C<sub>1</sub>-C<sub>10</sub> aliphatic carboxylic acids. In addition to the above, Applicant respectfully believes Iiskolan, et al., also fails to disclose, teach, or suggest Applicants currently, specifically claimed Lewis base.

As outlined *supra*, a determination of patentability under 35 U.S.C. §103 should be made upon the facts of the particular case in view of the totality of the circumstances. See *In re Dillion*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (*in banc*). Use of *per se* rules by Office personnel is improper for determining whether claimed subject matter would have been obvious under 35 U.S.C. 103. See *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995); *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. Also, the

fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). See also *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992); *In re Deuel*, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

Accordingly, Applicant also respectfully believes the Examiner has not established *why* one would have modified Iiskolan, et al. in an attempt to arrive at Applicant's currently claimed solid Lewis adducts comprising Applicant's currently claimed Lewis base, and *why* one would have a reasonable expectation of success. However, this is the Examiner's initial burden to establish a *prima facie* case of obviousness. See MPEP §2142 and §2143. As such, Applicant respectfully believes the current rejection should be withdrawn.

Moreover, Applicant respectfully traverses the Examiners assertion on page 4, lines 15-20,

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

However, as outlined *supra* regarding Yang, et al., Applicant respectfully believes the Examiner has not identified what, if any, result effective variable is being optimized in Applicant's currently pending claims, much less demonstrated with objective,

factual evidence that whatever supposed result effective variable the Examiner is referring to, was so recognized as a result effective variable in the art. See *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Accordingly, if the Examiner maintains the current rejection and continues to rely on *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), Applicant respectfully requests the Examiner to identify, (i) what variable, or variables, in Applicant's currently pending claims the Examiner is asserting is a result effective variable, (ii) objective, factual evidence supporting the Examiner's assertion that the identified result effective variable, or variables, from (i) were in fact recognized in the art to be result effective variables, and (iii) how the supposed result effective variable from (ii) is supposedly being optimized in Applicant's currently pending claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

In light of the above, Applicant respectfully believes claims 1, 4-6, 8-13, and 19-30 are patentably distinct from Iiskowlan, et al. Accordingly, Applicant respectfully requests the Examiner to withdraw the current rejection.

### **3. Request for Clarification of Current Office Action**

The Office Action states,

Original rejection

8. Claims 1, 4-6, 8-13 and 19-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al., USP 6,034,025 (herein referred to as Yang).



Yang discloses the invention as claimed (abstract; col. 3, l. 45 to col. 4, l. 59).

Claims 1, 4-6, 8-13 and 19-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Iiskolan et al., USP 4,829,034 (hereafter referred to as Iiskolan).

Iiskolan discloses the invention as claimed (col. 5-6, example 1).

10. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iiskolan in view of Yang, both cited above. The disclosure of Iiskolan has been discussed above.

Iiskolan lacks in its example 1 the use of a further solvent or the direct combination of the magnesium halide/alcohol adduct with a further Lewis base.

However, Yang at col. 4, l. 22-30, teaches that the combination of the various ingredients that go to make up a magnesium chloride adduct support may conventionally occur in an inert hydrocarbon solvent., and since the alcohols of Yang and Iiskolan are already Lewis bases, the addition of a further Lewis base would have been conventional to the routineer in the art. It would have been obvious to one of ordinary skill in the art to apply the teaching of Yang to the disclosure of Iiskolan with a reasonable expectation of obtaining a highly-useful method of making a magnesium chloride adduct with the expected benefit of being able to obtain finer particle sizes by breaking up the product by stirring in solution as it is made.

## **RESPONSE**

### *Request for Clarification:*

After reviewing the merits of the current Office Action, Applicant respectfully requests the Examiner to clarify whether the rejections listed on page 5, line 1 - page 6, line 2, of the current Office Action under the title "Original rejection" and which are outlined above, are still in fact maintained by the Examiner.

If the rejections on page 5, line 1 - page 6, line 2, of the current Office Action under the title "Original rejection" are in fact being maintained by the Examiner, Applicant respectfully responds as follows.

*Rejection of Claims 1, 4-6, 8-13, and 19-30 Under 35 U.S.C.*

*§102(b):*

With respect to claims 1, 4-6, 8-13, and 19-30 as being anticipated by Yang, et al, Applicant respectfully traverses this rejection.

For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

All arguments regarding Yang, et al. *supra* are incorporated herein by reference in their entirety.

Notwithstanding, Applicant respectfully believes the current rejection should be withdrawn given the Examiner's acknowledgement on page 3, lines 7-12 of the current Office Action. In particular,

the Examiner acknowledges, that,

. . . Yang et al does not explicitly state that his Lewis adduct is solid . . . and if the composition of the instant application is solid then it would be obvious to someone of ordinary skill in the art that an identical composition from the reference would also be expected to be solid. . . .

First and foremost, since the Examiner acknowledges, "it would be obvious to someone of ordinary skill in the art", Applicant respectfully believes the rejection should be withdrawn given the Examiner is using the wrong legal standard. In particular, if the current rejection is being maintained (i.e., claims 1, 4-6, 8-13, and 19-30 are rejected as anticipated by Yang, et al.), since the Examiner clearly acknowledges claims 1, 4-6, 8-13, and 19-30 would merely be obvious, then clearly the legal standard of anticipation has not been satisfied. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), (Emphasis added). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990). For this reason alone, if the current rejection is in fact being maintained by the Examiner, Applicant respectfully believes the rejection should be withdrawn.

Regardless, since the Examiner acknowledges that Yang, et al. fails to disclose the adducted therein is solid, Applicant respectfully believes the current rejection should be withdrawn. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d

1913, 1920 (Fed. Cir. 1989), (Emphasis added). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Accordingly, if the aforementioned rejection is in fact being maintained by the Examiner, in light of the above, Applicant respectfully requests the Examiner to withdraw the rejection.

*Rejection of Claims 1, 4-6, 8-13, and 19-30 Under 35 U.S.C.*

*§102(b):*

With respect to claims 1, 4-6, 8-13, and 19-30 as being anticipated by Iiskolan, et al., Applicant respectfully traverses this rejection.

As outlined *supra*, for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

All arguments regarding Iiskolan, et al. *supra* are incorporated herein by reference in their entirety.

Notwithstanding, Applicant respectfully believes the current rejection should be withdrawn given the Examiner's acknowledgement on page 4, lines 11-14, of the current Office Action. In particular, the Examiner acknowledges, that,

. . . Iiskolan does not explicitly teach using 2.5 ROH per Mg . . . it would have been obvious to someone of ordinary skill in the art at the time the invention was made to vary the ratio of reagent within the stated range of feasibility.

First and foremost, as with the preceding comments regarding Yang, et al., since the Examiner acknowledges, "it would be obvious to someone of ordinary skill in the art", Applicant respectfully believes the rejection should be withdrawn given the Examiner is using the wrong legal standard. In particular, if the current rejection is being maintained (i.e., claims 1, 4-6, 8-13, and 19-30 are rejected as anticipated by Iiskolan, et al.), since the Examiner clearly acknowledges claims 1, 4-6, 8-13, and 19-30 would merely be obvious, then clearly the legal standard of anticipation has not been satisfied. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), (Emphasis added). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990). For this reason alone, if the current rejection is in fact being maintained by the Examiner, Applicant respectfully believes the rejection should be withdrawn.

Regardless, since the Examiner acknowledges that Iiskolan, et

al. fails to disclose Applicant's currently claimed adduct comprising from 0.5 to 2.5 of ROH, Applicant respectfully believes the current rejection should be withdrawn. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), (Emphasis added). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Accordingly, if the aforementioned rejection is in fact being maintained by the Examiner, in light of the above, Applicant respectfully requests the Examiner to withdraw the rejection.

*Rejection of Claims 14-17 Under 35 U.S.C. §103(a):*

With respect to claims 14-17 as being unpatentable over Iiskolan, et al. in view of Yang, et al., Applicant respectfully traverses this rejection.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

All arguments regarding Yang, et al. and Iiskolan, et al. *supra* are incorporated herein by reference in their entirety.

Additionally, as outlined in Applicant's previous response of January 3, 2007, in addition to not disclosing, teaching, or suggesting Applicant's currently claimed solid Lewis adducts, the currently claimed adducts unexpectedly have a higher activity than those disclosed in Iiskolan, et al. or Yang, et al.

In particular, Applicant believes the activity of the catalyst components disclosed in Iiskolan, et al. range from 5.7 - 9.9 Kg/g (i.e., Kg of polymer produced per gram of catalyst used), with the catalyst components of Iiskolan, et al. having an average activity of 8.3 Kg/g. The activity of the catalysts disclosed in Yang, et al. range from 1.6 - 5.2 Kg/g, with the catalysts of Yang, et al. having an average activity of 3.8 Kg/g.

However, Applicant's currently claimed solid Lewis adducts unexpectedly have activities ranging from 9.3 - 107.6 Kg/g, with the average activity unexpectedly being 50.3 Kg/g. Accordingly, Applicant's currently claimed solid Lewis adducts have an average activity of more than 6 times the average activity of the catalyst components of Iiskolan, et al., and more than 13 times the average activity of the catalysts of Yang, et al.

In light of the above, claims 14-17 are believed to be non-obvious, and are patentably distinguishable over Iiskolan, et al. in view of Yang, et al. Accordingly, reconsideration and withdrawal of the rejection is requested.

#### **4. Applicant's Response to the Examiner's Response to Arguments**

In addition the Examiner's assertions previously made and highlighted *supra*, the current Office Action states on page 6, line 17 - page 7, line 16, page 8, line 19 - page 9, line 14, and page 9, line 18 - page 10, line 2,

Applicants argue against 102(b) rejection of Yang et al. stating that it does not disclose, teach, or suggest solid Lewis adducts comprising  $MgCl_2$ , a Lewis Base selected from ethers. . . ., and an alcohol, which compounds are in molar ratios to each other defined by the following formula  $MgCl_2(ROH)_m(LB)_n$  in which m ranges from 0.5-2.5 and n ranges from 0.07-6, with compounds of transition metals belonging to groups 4-6 of the periodic table, and that Yang, et al. fails to teach catalyst system for the polymerization of  $\alpha$ -olefins obtained by contacting a catalyst component with at least one organoaluminum compound.

This is found not persuasive because as stated above Yang, et al. teaches these components in a catalyst system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

Applicants argue Yang, et al. teaches a magnesium compound in solution



This is found not persuasive because being in solution does not prevent a compound from being solid (i.e. glucose does not stop being solid because it is dissolved in water).

. . . . .

Applicant argue against 102(b) rejection of Iiskolan et al. stating that it does not disclose, teach, or suggest the ratios claimed in the instant application and that Iiskolan examples all teach the ratio of alcohol to magnesium being at least 2.9 and that 'if claims are directed towards a narrow range and the reference teaches a broad range. . . .it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims' and any evidence of unexpected results within the narrow range may also render the claims unobvious.

This is found not persuasive because the reference teaches ranges that clearly overlap that of the instant application. Furthermore, applicants had this exact range in their original claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

. . . . .

Applicants argue unexpected results in the activity of their catalyst. Applicants state that the catalyst of Iiskolan has an activity of 5.7-9.9 Kg/g and in the instant application the activity is 9.3-107.6 Kg/g. This is found not persuasive however, because the reference of Iiskolan teaches an activity of 345 Kg/g (column 6, lines 62-63).

**RESPONSE**

All arguments *supra* regarding Yang, et al. and Iiskolan, et al. are incorporated herein by reference in their entirety.

Applicant respectfully responds as follows to the aforementioned section in the current Office Action, which states,

Applicants argue against 102(b) rejection of Yang et al. stating that it does not disclose, teach, or suggest solid Lewis adducts comprising  $\text{MgCl}_2$ , a Lewis Base selected from ethers. . . ., and an alcohol, which compounds are in molar ratios to each other defined by the following formula  $\text{MgCl}_2(\text{ROH})_m(\text{LB})_n$  in which  $m$  ranges from 0.5-2.5 and  $n$  ranges from 0.07-6, with compounds of transition metals belonging to groups 4-6 of the periodic table, and that Yang, et al. fails to teach catalyst system for the polymerization of  $\alpha$ -olefins obtained by contacting a catalyst component with at least one organoaluminum compound.

This is found not persuasive because as stated above Yang, et al. teaches these components in a catalyst system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

First and foremost, as outlined *supra* and in Applicant's previous response of January 3, 2007, Applicant respectfully believes Yang, et al. fails to disclose, teach, or suggest Applicant's currently claimed solid Lewis adducts. As outlined *supra*, for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The

test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Additionally, A determination of patentability under 35 U.S.C. §103 should be made upon the facts of the particular case in view of the totality of the circumstances. See *In re Dillion*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (*in banc*). Use of *per se* rules by Office personnel is improper for determining whether claimed subject matter would have been obvious under 35 U.S.C. 103. See *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995); *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. Also, the fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). See also *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992);

*In re Deuel*, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

Accordingly, as outlined *supra*, for this reason alone Applicant respectfully believes the rejections should be withdrawn.

Even more so, Applicant respectfully traverses the Examiner's reliance on *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) as discussed *supra*. Accordingly, as discussed above, if the Examiner maintains the current rejection and continues to rely on *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), Applicant respectfully requests the Examiner to identify, (i) what variable, or variables, in Applicant's currently pending claims the Examiner is asserting is a result effective variable, (ii) objective, factual evidence supporting the Examiner's assertion that the identified result effective variable, or variables, from (i) were in fact recognized in the art to be result effective variables, and (iii) how the supposed result effective variable from (ii) is supposedly being optimized in Applicant's currently pending claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Notwithstanding, Applicant respectfully traverses the Examiner's assertion that,

Applicants argue Yang, et al. teaches a magnesium compound in solution

This is found not persuasive because being in solution does not prevent a compound from being solid (i.e. glucose does not stop being solid because it is dissolved in water).

As outlined and discussed *supra*, Applicant respectfully believes Yang, et al. fails to disclose Applicant's currently claimed solid Lewis adducts. In fact, as outlined above, Applicant respectfully believes Yang, et al. clearly and expressly discloses a magnesium compound solution, and not Applicant's currently claimed solid Lewis adducts, or an obvious variation thereof.

Additionally, Applicant respectfully traverses the Examiners assertion that, "being in solution does not prevent a compound from being solid (i.e. glucose does not stop being solid because it is dissolved in water)." First and foremost, Applicant respectfully traverses the assertion that, "being in solution does not prevent a compound from being solid. . . ."

As discussed at length *supra*, Applicant respectfully believes Yang, et al. clearly discloses a magnesium compound solution. In fact, Yang, et al. clearly discloses types of solvents to be used to dissolve the magnesium halide compounds disclosed in Yang, et al. See col. 3, lines 31-35, col. 3, lines 44-48, and col. 3, line 65 - col. 4, line 3 in Yang, et al. Accordingly, Applicant respectfully cannot accept the Examiner's assertion that, "being in solution does not prevent a compound from being solid". However, if the Examiner maintains the current rejection, Applicant respectfully requests the Examiner to show with objective, factual evidence that the magnesium compound solution as disclosed in Yang, et al. is in fact a solid Lewis adduct as currently claimed by Applicant.

Moreover, Applicant respectfully requests the Examiner to

clarify the statement, "(i.e. glucose does not stop being solid because it is dissolved in water)." In particular, Applicant fails to see the nexus, technical or otherwise, between glucose, a completely organic, simple sugar molecule dissolved in water, and Applicant's currently claimed solid Lewis adducts comprising the formula  $\text{MgCl}_2(\text{ROH})_m(\text{LB})_n$ . Accordingly, Applicant respectfully requests the Examiner to (i) clarify how glucose dissolved in water anticipates, or renders obvious, Applicant's currently claimed solid Lewis adducts comprising the aforementioned formula, and (ii) provide Applicant with objective, factual evidence demonstrating a nexus, technical or otherwise, between glucose, a completely organic, simple sugar molecule dissolved in water, and Applicant's currently claimed solid Lewis adducts comprising the formula  $\text{MgCl}_2(\text{ROH})_m(\text{LB})_n$ .

Furthermore, Applicant responds as follows to the Examiner's assertion,

Applicant argue against 102(b) rejection of Iiskolan et al. stating that it does not disclose, teach, or suggest the ratios claimed in the instant application and that Iiskolan examples all teach the ratio of alcohol to magnesium being at least 2.9 and that 'if claims are directed towards a narrow range and the reference teaches a broad range. . . .it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims' and any evidence of unexpected results within the narrow range may also render the claims unobvious.

This is found not persuasive because the reference teaches ranges that clearly overlap that of the instant application. Furthermore, applicants had this exact range in their original claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the catalyst such as the ratio of alcohol/Lewis base relative to magnesium to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

First and foremost, as discussed *supra*, even if true, which Applicant denies, a range disclosed in the art which overlaps or even encompasses a range claimed by Applicant, in and of itself, may not be sufficient enough to anticipate or render obvious the range claimed by Applicant.

In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with "sufficient specificity to constitute an anticipation under the statute." (Emphasis added). If the claims are directed to a narrow range, and the reference teaches a broad range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with "sufficient specificity" to constitute an anticipation of the claims. See *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423, (Fed. Cir. 2006). Also, see MPEP §2131.03 II.

As for obviousness, a determination of patentability under 35 U.S.C. §103 should be made upon the facts of the particular case in view of the totality of the circumstances. See *In re Dillion*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (*in banc*). Use of *per se* rules by Office personnel is improper for determining

whether claimed subject matter would have been obvious under 35 U.S.C. 103. See *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995); *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. Also, the fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). See also *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992); *In re Deuel*, 51 F.3d 1552, 1559, 34 USPQ2d 1210, 1215 (Fed. Cir. 1995).

Accordingly, since Applicant respectfully believes the Examiner has used the wrong legal standard for anticipation and/or obviousness (i.e., the Examiner's contention that, "because the reference teaches ranges that clearly overlap that of the instant application", in and of itself, is enough to anticipate or render obvious Applicant's currently claimed solid Lewis adducts), Applicant respectfully believes the current rejection should be withdrawn for this reason alone.

Moreover, Applicant respectfully requests clarification of the Examiner's assertion,

Furthermore, applicants had this exact range in their original claims.



In particular, Applicant is not aware of *how* and/or *why* this affects the current rejection. Accordingly, if the Examiner maintains the current rejections, Applicant respectfully requests the Examiner to explain *how* and *why* Applicant's currently claimed solid Lewis adducts are rejected as being anticipated or obvious, given Applicant had this range in the original claims.

With respect to the Examiner's reliance on *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), as discussed *supra*, Applicant respectfully requests the Examiner to identify, (i) what variable, or variables, in Applicant's currently pending claims the Examiner is asserting is a result effective variable, (ii) objective, factual evidence supporting the Examiner's assertion that the identified result effective variable, or variables, from (i) were in fact recognized in the art to be result effective variables, and (iii) how the supposed result effective variable from (ii) is supposedly being optimized in Applicant's currently pending claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Furthermore, Applicant respectfully responds as follows to the Examiner's assertion,

Applicants argue unexpected results in the activity of their catalyst. Applicants state that the catalyst of Iiskolan has an activity of 5.7-9.9 Kg/g and in the instant application the activity is 9.3-107.6 Kg/g. This is found not persuasive however, because the reference of Iiskolan teaches an activity of 345 Kg/g (column 6, lines 62-63).

However, Applicant outlined in Applicant's response of January

3, 2007 on page 21, line 14 - page 22, line 1,

Applicant believes the activity of the catalyst components disclosed in Iiskolan, et al. range from 5.7 - 9.9 Kg/g (i.e., **Kg of polymer produced per gram of catalyst used**), with the catalyst components of Iiskolan, et al. having an average activity of 8.3 Kg/g. The activity of the catalysts disclosed in Yang, et al. range from 1.6 - 5.2 Kg/g, with the catalysts of Yang, et al. having an average activity of 3.8 Kg/g.

However, Applicant's currently claimed solid Lewis adducts unexpectedly have activities ranging from 9.3 - 107.6 Kg/g, with the average activity unexpectedly being 50.3 Kg/g. Accordingly, Applicant's currently claimed solid Lewis adducts have an average activity of more than 6 times the average activity of the catalyst components of Iiskolan, et al., and more than 13 times the average activity of the catalysts of Yang, et al. (Emphasis added)

In other words, Applicant respectfully believes the average activity of the catalysts disclosed in Iiskolan, et al. and Yang, et al. calculated based on Kg of polymer produced per gram of catalyst used are 6 to 13 times lower than the average activity of Applicant's currently claimed solid Lewis adducts.

Accordingly, Applicant respectfully traverses the Examiner's assertion,

This is found not persuasive however, because the reference of Iiskolan teaches an activity of 345 Kg/g (column 6, lines 62-63).

In fact, the activity cited by the Examiner in col. 6, lines 62-63 in Iiskolan, et al. recites,

The activity of the catalyst was 345 kg polypropylene **per g Ti**. (Emphasis added)

As such, the activity cited by the Examiner in Iiskolan, et al.

is based on per g of Ti, and not per gram of catalyst used as outlined by Applicant. Therefore, Applicant respectfully maintains Applicant's unexpected results.

### CONCLUSION

Based upon the above remarks, the presently claimed subject matter is believed to be novel and patentably distinguishable over the references of record. The Examiner is therefore respectfully requested to reconsider and withdraw all rejections and allow all pending claims 1, 4-6, 8-17, and 19-30. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned practitioner if he has any questions or comments.

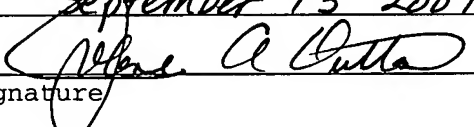
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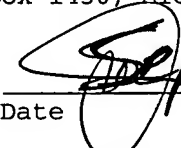
By: 

Jarrod N. Raphael  
Registration No. 55,566  
Customer No. 34872

Date: September 13, 2007  
Basell USA Inc.  
912 Appleton Road  
Elkton, MD 21921  
Telephone No.: 410-996-1750  
Fax No.: 410-996-1560

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